

REMARKS

Favorable consideration of this application is respectfully requested.

Claims 1-6, 31, and 49-73 are currently active in this case. Claims 1, 7-13, 26, 38-48 have been cancelled, and Claims 57-73 have been added by way of the present amendment. Claims 14-25, 27-30, and 32-37 were cancelled by previous amendment. Each new and amended claim is supported by the specification and claims as originally submitted and no new matter has been added.

In the outstanding Official Action Claims 1 – 13, 26, 31 and 38 – 55 were rejected under 35 U.S.C. 102(a) as being clearly anticipated by *Berman, et al.* (2003/0227680 A1), hereinafter referred to as *Berman*, Claims 1 – 13, 26, 31 and 38 – 55 were rejected under 35 U.S.C. 102(e) as being anticipated by *Chen, et al.* (2003/0227680 A1), hereinafter referred to as *Chen*, and Claims 12 and 13 were rejected under 35 U.S.C. 102(e) as being anticipated by *O’Conner, et al.* (US 6,672,722), hereinafter referred to as *O’Conner*.

Applicants respectfully traverse the rejection of Claim 2 as being anticipated by *Berman*. Claim 2 recites:

2. A prism assembly, comprising:
a set of optics configured to break an input light beam into at least a first component light beam and a second component color light beam;
a first quarter waveplate inserted in the first component light beam and oriented such a principle axis of the first quarter waveplate is aligned parallel to an axis of linear polarization of the first component light beam; and
a second quarter waveplate inserted in the second component light beam and oriented such a principle axis of

the second quarter waveplate is aligned perpendicular to an axis of linear polarization of the second component light beam.

However, *Berman* fails to teach or suggest similar subject matter.

Applicants respectfully note that *Berman* provides many innovative techniques for the construction of a prism assembly, including the use of quarter waveplates and “rotated” quarter waveplates to compensate for skew rays in prism assemblies. However, *Berman* fails to teach or suggest a first quarter waveplate oriented such that “a principle axis of the first quarter waveplate is aligned parallel to an axis of linear polarization of the first component light beam,” in combination with a second quarter waveplate oriented such that “a principle axis of the second quarter waveplate is aligned perpendicular to an axis of linear polarization of the second component light beam.” In fact, after careful review, Applicants have been unable to find any reference in *Berman* to any prism assembly that utilizes a combination of both a parallel and perpendicularly oriented quarter waveplates (each parallel or perpendicular relative to linear polarization of corresponding component light beams). Therefore, Applicants respectfully submit that Claim 2 cannot be anticipated by *Berman* because *Berman* fails to teach or suggest all the subject matter claimed in Claim 2.

Applicants also respectfully traverse the rejection of Claim 2 as being anticipated by *Chen*. Applicants respectfully note *Chen*’s Figures 16 and 17 describe a prism assembly that utilizes quarter waveplates “oriented to correct for skew rays,” (*Chen* paragraph [125]). *Chen*’s quarter waveplates perform functions not entirely unlike the quarter waveplates described in *Berman*. However, nothing in *Chen* teaches or suggest the combination of a first quarter waveplate oriented parallel to an axis of linear polarization of a first component light beam and a second quarter waveplate aligned perpendicular to an axis of linear polarization of the second component light beam.

Moreover, Applicants respectfully note that neither *Berman* nor *Chen* describe perpendicularly oriented quarter waveplates (e.g. a principle axis of the quarter waveplates being oriented perpendicularly to the linear polarization of incident light). Therefore, Applicants respectfully note that Claim 2 is distinguished over *Berman* and *Chen* for at least two distinct reasons: (1) the use of a perpendicularly oriented quarter waveplate; and (2) a the combination of parallel and perpendicular waveplates as discussed above. Accordingly, Applicants respectfully submit that Claim 2 is patentable over *Berman* and/or *Chen*.

Applicants respectfully traverse the rejections of Claim 31 as being anticipated by *Berman* and as being anticipated by *Chen*. Claim 31 recites:

31. A prism assembly, comprising:

at least 3 light channels;

a set of parallel waveplates and at least one perpendicular waveplate, each parallel and perpendicular waveplate individually positioned in a respective one of the light channels;

the parallel waveplates oriented so as to have a principle axis oriented parallel to an axis of linearly polarized light input to the parallel waveplates and the perpendicular waveplate is oriented with its principle axis perpendicular to an axis of linearly polarized light input to the perpendicular waveplate; and

at least 3 microdisplays attached to the prism assembly, each individually positioned in a respective one of the light channels and an axis of each microdisplay is parallel to an axis of polarized light input to the quarter waveplate of the same channel.

However, the cited references fail to teach or suggest similar subject matter. In particular, Applicants respectfully note that neither **Berman** nor **Chen** teach or suggest ***“a set of parallel waveplates and at least one perpendicular waveplate, each parallel and perpendicular waveplate individually positioned in a respective one of the light channels;”*** therefore, Applicants respectfully assert that Claim 31 is also patentable over **Berman** or **Chen**.

Applicants respectfully submit new independent Claims 57 and 58. Claim 57 specifically includes a quarter waveplate with an optical axis aligned parallel to an axis of polarization of a light beam and an axis of a microdisplay oriented at a non-zero angle relative to the optical axis of the quarter waveplate. Further, Claim 57 also includes that the optical axis of the quarter waveplate is offset from parallel and perpendicular relative to side edges of the quarter waveplate.

Claim 58 includes a microdisplay with a mechanical and optical axis not precisely aligned and a quarter waveplate in optical series. Further, Claim 58 includes that the optical axis of the quarter waveplate is offset from either of parallel and perpendicular relative to side edges of the quarter waveplate. However, none of the above described limitations as recited in either Claim 57 or 58 are not taught or suggested in the cited references or any other prior art known to Applicants. Accordingly, Applicants respectfully submit that new Claims 57 and 58 are also patentable.

Based on the patentability of independent Claims 2, 31, 57, and 58, Applicants further respectfully submit that dependent Claims 3-6 and 49-56 are also patentable.

Consequently, no further issues are believed to be outstanding, and it is respectfully submitted that this case is in condition for allowance. An early and favorable action is respectfully requested.

Respectfully submitted,

Dated: 5-3-2006

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